



**WORK PLAN/
SAMPLING AND ANALYSIS PLAN**

**23117 HARPER
ST. CLAIR SHORES, MICHIGAN**

for

**MACOMB COUNTY DEPARTMENT OF PLANNING AND
ECONOMIC DEVELOPMENT
1 SOUTH MAIN, 7TH FLOOR
MOUNT CLEMENS, MICHIGAN**

**AKT PEERLESS PROJECT NO. 6893F
JANUARY 7, 2011**

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**WORK PLAN/SAMPLING AND ANALYSIS PLAN
FOR
23117 HARPER
ST. CLAIR SHORES, MICHIGAN**

1.0 INTRODUCTION

AKT Peerless Environmental & Energy Services (AKT Peerless) has prepared this Work Plan/Sampling and Analysis Plan (Work Plan/SAP) on behalf of the Macomb County Department of Planning and Economic Development (Macomb County) for assessment using Macomb's U.S. Environmental Protection Agency (EPA) Brownfield Assessment Hazardous Substance Grant (BF-00E82501-0). The purpose of this Work Plan/SAP is to document the (1) data gathering and sampling methodologies, (2) sample frequency, locations, and rationale and (3) procedures and protocol for the proposed subsurface investigation. The subject property was determined to be an eligible hazardous substance property by the EPA on January 3, 2011.

2.0 PROPERTY LOCATION AND DESCRIPTION

The site is located at 23117 Harper, St. Clair Shores, Michigan, and consists of one parcel (Parcel ID number: 14-28-482-017), comprising approximately 2.2-acres. Liggett Holdings is the current site owner.

2.1 CURRENT USE

The subject property consists of a vacant 29,750 square foot bowling alley building. The remainder of the subject property is developed with paved parking and drive areas.

2.2 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

AKT Peerless was not provided with previous investigations for the subject property.

3.0 PURPOSE AND SCOPE OF WORK

The City of St. Clair Shores will demolish the subject building in preparation for planned redevelopment activities. The purpose of this investigation will be to evaluate building materials and conditions in the subject building to prepare for demolition activities and demonstrate due care.

4.0 PROPOSED ENVIRONMENTAL ACTIVITIES

The scope of work for the asbestos and hazardous materials assessment will be to evaluate for the presence of potentially regulated or hazardous material conditions in the subject building. AKT Peerless will adhere to quality assurance objectives and procedures outlined in the "Quality Assurance Project Plan (QAPP), Brownfield Assessment Program, Hazardous Substances and Petroleum Site Assessment Grant, Macomb County, Michigan.", dated June 2009, revision 1. On-site activities will be conducted in adherence to the Health and Safety Plan provided in

Appendix A. Fibertec Environmental Services (Fibertec) or APEX Research, Inc. (APEX) will conduct laboratory analysis.

4.1 ASBESTOS SURVEY SCOPE OF WORK

AKT Peerless' asbestos survey is based on the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). The purpose of ASHARA is to extend the Asbestos Hazard Emergency Response Act (AHERA) inspection and management requirements to commercial and industrial buildings. In addition, because the buildings are scheduled for demolition, it is also subject to EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) standards.

The purpose of AKT Peerless' asbestos survey is to: (1) identify and locate suspect asbestos containing building materials (ACBM), (2) establish a sampling plan, based on homogeneous and functional areas, to sample sources of friable and non-friable suspect ACBM, (3) quantify the amount of asbestos identified at the property, and (4) prepare a final survey report documenting ACBM and presumed ACBM quantities, locations, and laboratory testing results.

AKT Peerless' Pre-Demolition Asbestos Survey will be performed according to the following protocols:

- A review of readily available building records may be performed. This review may include building records, such as “working drawings” and “as-built drawings” to obtain an initial orientation to the layout and structural/electrical/mechanical elements of the building(s) or survey area. Building specifications, blueprints, and change orders will also be reviewed for any reference to any generic manufacturer or brand name of materials known to contain asbestos that have been incorporated into the building structures.
- AKT Peerless will conduct an inspection of the survey area to identify building materials that are suspect for asbestos content. The AHERA rule requires that the suspect materials be identified, located and documented, and that suspect materials are assessed and classified for friability and damage. During the inspection, homogeneous areas will be delineated and sampled, as appropriate. Functional spaces will also be identified for purposes of assessing all suspect materials and thermal system insulation, as appropriate.
- As part of the building inspection, AKT Peerless may use destructive methods to gain access to enclosed building walls and ceiling structures, etc.
- AKT Peerless will conduct a limited physical (damage) assessment of suspect materials.
- All samples collected will be submitted with chain-of-custody documentation to an analytical laboratory that participates in the National Voluntary Laboratory Accreditation Program (NVLAP). All samples will be analyzed using polarized light microscopy (PLM) with dispersion staining following EPA Test Method (EPA-600/M4-82-020) and the National Institute of Standards and Technology (NIST) Bulk Asbestos Handbook. Although PLM is currently the accepted and approved method for analysis, the method is limited in its ability to provide a quantitative result when asbestos represents a small fraction of the material. Current EPA guidelines specify that when initial laboratory analysis of friable materials detects the presence of asbestos in a quantity between less than one percent (or trace) and

less than ten percent, a verification analysis using the point counting analytical method may be considered.

- To minimize costs, AKT Peerless may also utilize first positive stop analysis methodologies. First positive stop involves analyzing samples by homogeneous area groupings. Laboratory analyses would proceed sample by sample, within each homogeneous area grouping, until a sample is determined to be asbestos containing. Thus the estimated number of samples taken will remain as proposed, the actual number of samples analyzed and necessarily the cost of analyses, are expected to be reduced thereby reducing the final laboratory analytical costs incurred by the client.
- AKT Peerless will prepare a report documenting the data and information gathered during the Asbestos Survey.

4.2 OTHER REGULATED MATERIALS SCOPE OF WORK

In addition to asbestos, other regulated materials must be removed from the buildings before renovation and disposal or recycling of the building debris. Other regulated materials that will be part of this survey include, but are not limited to, fluorescent light tubes and ballasts, mercury switches, CFC refrigerants, emergency lighting batteries, chemicals, and other liquids, fluids and materials.

The survey for other regulated materials will be completed according to the following procedures:

- An inspection will be conducted of accessible areas of the building for potential hazardous materials such as polychlorinated biphenyl (PCB) containing light ballasts, transformers, and mercury light tubes and switches. The survey will be performed in each identified interior space and will comprise an inspection of accessible fluorescent ceiling light fixtures for possible PCB-containing ballasts systems. In addition, an inspection will be performed of on-site electrical switches and light bulbs to determine if potential mercury-containing materials exist in this equipment. No contact with manufacturers, sample collection, or testing of this equipment is proposed as part of this scope of work.
- An inspection will be performed of interior and exterior areas of the building to identify the location of containers, drums, batteries, oil/water separator basins, or other features that may contain potentially hazardous or regulated materials/wastes. As part of this survey, no sampling of liquid or solid materials contained within these containers will be performed.
- AKT Peerless will also include in the final survey report, information from the inventory of materials identified including a description of quantities, condition, and location. Further, the report will include recommendations for the disposal of equipment or containers identified as containing PCBs, mercury, or potential hazardous or regulated materials/wastes.

5.0 CHAIN-OF-CUSTODY

Chain-of-custody protocol is necessary to ensure the integrity of samples from the time of collection to data reporting. Chain-of-custody protocols include proper sample labels, sample

seals, sample storage, sample shipment, and documentation. Refer to the QAPP for the detailed explanation of sample custody procedures.

6.0 DECONTAMINATION PROCEDURES

6.1 SAMPLE COLLECTION EQUIPMENT

Strict decontamination procedures will be followed during investigation activities to reduce the potential for cross-contamination. All sampling equipment will be decontaminated prior to first use onsite, and thereafter between uses, using a vigorous wash in an Alconox solution, followed by a tap water rinse, and a distilled water rinse.

6.2 DISPOSAL OF INVESTIGATION DERIVED MATERIALS

During the course of the field investigation activities, disposable personal protective equipment (PPE) will be generated. AKT Peerless will dispose this PPE as municipal waste.

7.0 HEALTH AND SAFETY PLAN


The site specific HASP provides guidelines and procedures to protect the health and safety of personnel conducting field activities. The plan has been developed based on requirements contained in the following regulations and guidance documents:

- 29 CFR 1910.120: *Safety and Health Regulation for General Industry*, Occupational Safety and Health Administration (OSHA), as amended, December 1986.
- *Standard Operating Safety Guides*, U.S. Environmental Protection Agency (EPA), 1992.
- *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*, National Institute of Occupational Safety and Health Administration (NIOSH), Publication No. 85-115, October 1985.

8.0 SIGNATURE

This Work Plan/SAP was prepared by AKT Peerless and is based on information available at the time of development of this plan, and is subject to revision as new data and information on potential health and safety hazards at the subject property becomes available.

AKT PEERLESS ENVIRONMENTAL & ENERGY SERVICES



Jessica T. Cory
Project Manager

APPENDIX A

SITE-SPECIFIC HEALTH AND SAFETY PLAN

AKT Peerless Environmental & Energy Services

Site Location: 23117 Harper, St. Clair Shores, Michigan

Date(s) of On-Site Investigation Activities: TBD, 2011

**216 West Jackson, Suite 1060
Chicago, IL
(312) 564-8488**

Project Manager/Site Safety Officer	AKT Peerless - James Fox – (248) 302-3571
Client Contact	Macomb County – Gerry Santoro - (586) 469-6443

Date: Not Applicable

REFERENCE: *AKT Peerless Health and Safety Plan*, March 2005

EMERGENCY TELEPHONE NUMBERS		
Ambulance: 911		
Poison Control Center: (313) 745-5711		
Police: 911		
Fire: 911		
EMERGENCY EQUIPMENT:		
<u>Communication Equipment:</u>		
<ul style="list-style-type: none">Mobile telephones carried by each field staff.		
<u>Medical Equipment:</u>		
<ul style="list-style-type: none">First aid kits are located in field vehiclesEye wash solutions are located in field vehicles		
HAND SIGNALS		
SIGNAL	INTERPRETATION	
Hand gripping throat	Out of air, can't breath	
Grip partner's wrist or both hands around waist	Leave area immediately	
Hands on top of head	Need assistance	
Thumbs up	OK, I'm all right, I understand	
Thumbs down	No, negative	
EMERGENCY ROUTES		
Location: St. Johns Hospital, 22101 Moross, Detroit, Michigan		
Telephone Number:	Emergency: 313-343-4000	General: 313-343-4000
Distance: 5.02 mi Time: 11 mins		
1. Start at 23117 HARPER AVE, ST CLAIR SHORES going toward E 9 MILE RD		
Turn Right on E 9 MILE RD - go 0.7 mi		
Turn Right to take ramp onto I-94 W toward PORT HURON/DETROIT - go 3.1 mi		
Take exit #224A/MOROSS RD onto EDESEL FORD FWY E - go 0.3 mi		
Turn Left on MOROSS RD - go 0.9 mi		
Make a U-Turn at NORTHDEUFT BLVD onto MOROSS RD - go 0.1 mi		
Arrive at 22101 MOROSS RD, DETROIT, on the Right		

ATTACHMENT 1
Personal Acknowledgment Signature Form

We, the undersigned, have individually read and will follow the health and safety guidelines presented in this site-specific Health and Safety Plan and will follow them while performing on-site work activities at

[illegible]